

SUMMARY

INTRODUCTION

This environmental impact statement (EIS) documents the environmental analysis of a proposal (the Proposed Action) by Sierra Pacific Power Company (SPPCo) to construct, operate, and maintain a new 120-kV overhead power line and two new electrical substations to improve the reliability and increase the capacity of the power supply to customers in the Spanish Springs Valley and Stead areas of Nevada.

The Proposed Action and all the alternatives are located wholly within Washoe County, Nevada (the project area) and would involve public lands administered by the Bureau of Land Management (BLM) Carson City Field Office, lands owned by the Airport Authority of Washoe County, and private lands within Washoe County and in the cities of Sparks and Reno.

SUMMARY OF PROPOSED ACTION

The proposed transmission line would originate at the Tracy Power Plant and would extend approximately 34 miles, through the Spanish Springs Valley to the Silver Lake Substation in the Stead area of Reno (Figure 2-2). The Proposed Action also includes constructing two new electrical substations, one in the northern Spanish Springs Valley (Proposed Sugarloaf Substation) and a second at the Reno-Stead Airport (Proposed Reno-Stead Airport Substation). The project would be implemented in two phases.

The first phase includes constructing about 17 miles of transmission line from the Tracy Power Plant to a new substation in the north Spanish Springs area. This phase of the project would likely be completed in 2005. In the second phase, approximately 17.5 miles of transmission line would be constructed from the Proposed Sugarloaf Substation to the existing Silver Lake Substation in Stead, and the

Proposed Reno-Stead Airport Substation would be constructed on land owned by the Airport Authority of Washoe County. The second phase of construction would be determined by customer demand in this area but is expected to begin around 2009.

Approximately 12 miles of the transmission line would be constructed on public land administered by BLM, 4.4 miles on land owned by the Airport Authority of Washoe County, and 18 miles on private land within Sparks, Reno, and Washoe County. The total area of the right-of-way (ROW) over the length of the Proposed Action would be approximately 165 acres, 58 acres of which would be public land. Where the ROW crosses private land, SPPCo would provide financial compensation for an easement to private owners, as determined by a qualified third-party appraiser, through negotiations, or through the courts.

About 34 acres of the proposed ROW is located along existing transmission or distribution line routes. The completed project would require a 40-foot wide right-of-way grant across land administered by BLM (20 feet on either side of the center line). While the ROW for the public lands would be 40 feet wide, the width of actual temporary disturbance would average 30 feet, and the width of long-term disturbance, primarily from access roads and supporting infrastructure, would average 15 feet.

The Proposed Action would follow several existing easements or rights-of-way for distribution lines. In all sections where the proposed route would follow existing distribution lines, the existing distribution poles would be removed and the distribution lines would be transferred to the new 120-kV poles. (See Figure 2-3 for an example of the pole configuration that includes additional distribution lines).

Prior to construction, a construction, operation, and monitoring (COM) plan would outline the specifics of how the Proposed Action would be constructed and operated and would list monitoring measures to ensure all commitments are fulfilled. The Proposed Action would be built using best management practices (BMPs), as defined by the Nevada State Conservation Commission (1994), and in accordance with all relevant codes (e.g., National Electric Safety Code and Uniform Building Code). To address special site conditions during the construction, qualified specialists would be employed, such as geotechnical engineers would be used to plan and design for slope stability and seismic events.

Construction of the transmission lines along the Proposed Action route is expected to cost about \$9.4 million (ECI 2003).

PROJECT ALTERNATIVES

Six alternatives to the Proposed Action are evaluated in this DEIS: the Northern Alternative (Figure 2-6), the Calle de la Plata Alternative (Figure 2-8), the Southern Alternative (Figure 2-9), the Foothills Alternative (Figure 2-10), the Existing Corridor Alternative (Figure 2-11), and the No Action Alternative. They represent a reasonable range of alternatives to the Proposed Action.

ISSUES SUMMARY

Issues identified during public scoping and agency review of Sierra Pacific's proposed Tracy to Silver Lake 120-kV Transmission Line Project include visual impacts, health and safety, wildlife habitat, property values, and cultural resources.

Based on this input, the following resources are evaluated in the EIS:

- Land use;
- Geology and soils;
- Water resources;
- Vegetation and wetlands resources;

- Invasive nonnative species;
- Wildlife resources;
- Special status species;
- Range resources;
- Aesthetic resources and noise;
- Hazardous materials and waste;
- Public health and safety;
- Air resources;
- Recreation and areas of critical environmental concern;
- Environmental justice and socioeconomics; and
- Cultural resources.

No prime or unique farmlands are within the project area.

SUMMARY OF IMPACTS

The following is a summary of potential impacts, by resource, resulting from the Proposed Action and action alternatives. Table S-1 provides an overview of impacts and recommended mitigation measures, and Figure 4-1 displays the proposed areas recommend for mitigation.

Land Use

New overhead electrical transmission corridors and facilities (60-kV or larger) proposed on public lands would be discouraged in favor of using existing corridors, routing on private land, or constructing lines underground in visually sensitive areas. There would be no major impacts involving land ownership or BLM land use authorizations for the Proposed Action or alternatives. Under these, mitigation would be required to minimize the impacts associated with the proximity of the transmission line to occupied or inhabited structures that are part of residential developments, schools, daycare facilities, or healthcare facilities for such structures within 150 feet of the transmission line

Table S-1
Overview of Environmental Consequences and Potential Mitigation Measures

Proposed Action	Northern Alternative	Calle de la Plata Alternative	Southern Alternative	Foothills Alternative	Existing Corridor Alternative	No Action Alternative
Land Use						
Impact: 12 qualifying structures within 150 feet of the transmission line centerline. Mitigation: Petition and receive a variance, conduct mitigation (options include constructing the transmission line underground, designing low-EMF lines, designing low-visibility lines, or conducting off-site mitigation), or purchase at fair market value the structures within the 150-foot boundary.	Impact: 19 qualifying structures within 150 feet of the transmission line centerline. Mitigation: Same as for the Proposed Action.	Impact: 2 qualifying structures within 150 feet of the transmission line centerline. Mitigation: Same as for the Proposed Action.	Impact: 88 qualifying structures within 150 feet of the transmission line centerline. Mitigation: Same as for the Proposed Action.	Impact: 103 qualifying structures within 150 feet of the transmission line centerline. Mitigation: Same as for the Proposed Action.	Impact: 52 qualifying structures within 150 feet of the transmission line centerline. Mitigation: Same as for the Proposed Action.	Impact: None. Mitigation: None.
Geology and Soils						
Impact: Potential for unstable slopes, landslides, erosion. Mitigation: Limit permanent cut or fill slopes to a maximum of 3:1 and implement standard stabilization measures and revegetation.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: None. Mitigation: None.

Table S-1
Overview of Environmental Consequences and Potential Mitigation Measures (*continued*)

Proposed Action	Northern Alternative	Calle de la Plata Alternative	Southern Alternative	Foothills Alternative	Existing Corridor Alternative	No Action Alternative
Water Resources						
<p>Impact 1: Water Quality from soil erosion.</p> <p>Mitigation 1: Implement runoff and erosion control measures.</p> <p>Impact 2: Water wells and springs.</p> <p>Mitigation 2: Identify all springs and water wells within 1,000 feet of a blasting zone. Allow only size-limited blasting within 1,000 feet unless cleared by a qualified hydrogeologist.</p>	<p>Impacts 1 and 2: Same as for the Proposed Action.</p> <p>Mitigation 1 and 2: Same as for the Proposed Action.</p>	<p>Impacts 1 and 2: Same as for the Proposed Action.</p> <p>Mitigation 1 and 2: Same as for the Proposed Action.</p>	<p>Impacts 1 and 2: Same as for the Proposed Action.</p> <p>Mitigation 1 and 2: Same as for the Proposed Action.</p>	<p>Impacts 1 and 2: Same as for the Proposed Action.</p> <p>Mitigation 1 and 2: Same as for the Proposed Action.</p>	<p>Impacts 1 and 2: Same as for the Proposed Action.</p> <p>Mitigation 1 and 2: Same as for the Proposed Action.</p>	<p>Impacts 1 and 2: None.</p> <p>Mitigation 1 and 2: None.</p>
Vegetation and Wetland Resources						
<p>Impact 1: Minor impacts on vegetative communities.</p> <p>Mitigation 1: Revegetate after completion of the construction.</p> <p>Impact 2: Potential impacts on wetlands and riparian communities.</p> <p>Mitigation 2: Before construction, delineate and stake exclusion zones. If avoidance is not possible, reduce construction disturbance area to 20 feet.</p>	<p>Impact 1: Minor to moderate impacts on vegetative communities.</p> <p>Impact 2: Potential impacts on wetlands and riparian communities.</p> <p>Mitigations 1 and 2: Same as for the Proposed Action.</p>	<p>Impact 1: Minor to moderate impacts on vegetative communities.</p> <p>Impact 2: Potential impacts on wetlands and riparian communities.</p> <p>Mitigations 1 and 2: Same as for the Proposed Action.</p>	<p>Impact 1: Minor impacts on vegetative communities.</p> <p>Impact 2: Potential impacts on wetlands and riparian communities.</p> <p>Mitigations 1 and 2: Same as for the Proposed Action.</p>	<p>Impact 1: Minor to moderate impacts on vegetative communities.</p> <p>Impact 2: Potential impacts on wetlands and riparian communities.</p> <p>Mitigations 1 and 2: Same as for the Proposed Action.</p>	<p>Impact 1: Minor to moderate impacts on vegetative communities.</p> <p>Impact 2: Potential impacts on wetlands and riparian communities.</p> <p>Mitigations 1 and 2: Same as for the Proposed Action.</p>	<p>Impacts 1 and 2: None.</p> <p>Mitigation 1 and 2: None.</p>

Table S-1
Overview of Environmental Consequences and Potential Mitigation Measures *(continued)*

Proposed Action	Northern Alternative	Calle de la Plata Alternative	Southern Alternative	Foothills Alternative	Existing Corridor Alternative	No Action Alternative
Invasive Nonnative Species						
<p>Impact: Minor impact from the introduction of known or unknown invasive nonnative species by construction or maintenance.</p> <p>Mitigation: The selected ROW will be surveyed before construction to delineate and map noxious weed infestation areas. Construction would be prohibited within these zones or SPPCo would apply an acceptable herbicide or employ conventional mechanisms of noxious weed removal.</p> <p>Clean equipment and vehicles at designated air or water wash stations.</p> <p>Monitor noxious weed populations annually until revegetation and weed abatement criteria have been met.</p>	<p>Impact: Same as for the Proposed Action.</p> <p>Mitigation: Same as for the Proposed Action.</p>	<p>Impact: Same as for the Proposed Action.</p> <p>Mitigation: Same as for the Proposed Action.</p>	<p>Impact: Same as for the Proposed Action.</p> <p>Mitigation: Same as for the Proposed Action.</p>	<p>Impact: Same as for the Proposed Action.</p> <p>Mitigation: Same as for the Proposed Action.</p>	<p>Impact: Same as for the Proposed Action.</p> <p>Mitigation: Same as for the Proposed Action.</p>	<p>Impact: Current weed populations would remain the same size or would grow in extent or density following current trends.</p> <p>Mitigation: None.</p>
Wildlife Resources						
<p>Impact 1: Moderate impacts on wildlife habitat.</p> <p>Mitigation 1: Reseed with appropriate plant species, as described in the Reclamation Plan (Appendix B). Monitor to ensure successful reclamation.</p> <p>Impact 2: Minor impacts on migratory birds (collision).</p> <p>Mitigation 2: install bird flight diverters on uppermost wire of</p>	<p>Impact 1: Same as for the Proposed Action.</p> <p>Mitigation 1: Same as for the Proposed Action.</p> <p>Impact 2: Same as for the Proposed Action.</p> <p>Mitigation 2: Same as for the Proposed Action.</p> <p>Impact 3: Same as for the Proposed Action.</p>	<p>Impact 1: Same as for the Proposed Action.</p> <p>Mitigation 1: Same as for the Proposed Action.</p> <p>Impact 2: Same as for the Proposed Action.</p> <p>Mitigation 2: Same as for the Proposed Action.</p> <p>Impact 3: Same as for the Proposed Action.</p>	<p>Impact 1: Same as for the Proposed Action.</p> <p>Mitigation 1: Same as for the Proposed Action.</p> <p>Impact 2: Same as for the Proposed Action.</p> <p>Mitigation 2: Same as for the Proposed Action.</p> <p>Impact 3: Same as for the Proposed Action.</p>	<p>Impact 1: Same as for the Proposed Action.</p> <p>Mitigation 1: Same as for the Proposed Action.</p> <p>Impact 2: Same as for the Proposed Action.</p> <p>Mitigation 2: Same as for the Proposed Action.</p> <p>Impact 3: Same as for the Proposed Action.</p>	<p>Impact 1: Minor impacts on wildlife habitat.</p> <p>Mitigation 1: Same as for the Proposed Action.</p> <p>Impact 2: Same as for the Proposed Action.</p> <p>Mitigation 2: Same as for the Proposed Action.</p>	<p>Impacts 1-4: None.</p> <p>Mitigation 1-4: None.</p>

Table S-1
Overview of Environmental Consequences and Potential Mitigation Measures *(continued)*

Proposed Action	Northern Alternative	Calle de la Plata Alternative	Southern Alternative	Foothills Alternative	Existing Corridor Alternative	No Action Alternative
<p>the lines that parallel Moya Boulevard and the east to west portions of Osage Road near Silver Lake.</p> <p>Impact 3: Minor impacts on nesting raptors.</p> <p>Mitigation 3: Before construction begins in the Hungry Valley, Hungry Ridge, and Lemmon Valley areas, they should be surveyed for nesting raptors. If any were observed within one mile, construction and land clearing would be avoided until the nests are no longer active. If it were necessary to remove trees containing raptor nests, it would be done outside the nesting period.</p> <p>Where feasible, land would be cleared outside the avian breeding season. In areas where land is cleared during the avian breeding season, a qualified biologist would survey the area. If active nests were located or if other evidence of nesting were observed, a protective buffer would be delineated and the area would be avoided until nests were no longer active.</p> <p>Impact 4: Minor impacts on mule deer winter grazing habitat.</p> <p>Mitigation 4: Schedule construction within the Hungry Ridge mule deer winter grazing range outside the winter season, from approximately November 1 through April 15th.</p>	<p>Mitigation 3: Same as for the Proposed Action.</p> <p>Impact 4: Negligible impacts on mule deer winter grazing habitat.</p> <p>Mitigation 4: None.</p>	<p>Mitigation 3: Same as for the Proposed Action.</p> <p>Impact 4: Minor impacts on mule deer winter grazing habitat.</p> <p>Mitigation 4: None.</p>	<p>Mitigation 3: Same as for the Proposed Action.</p> <p>Impact 4: Minor impacts on mule deer winter grazing habitat (twice that of the Proposed Action).</p> <p>Mitigation 4: Same as for the Proposed Action.</p>	<p>Mitigation 3: Same as for the Proposed Action.</p> <p>Impact 4: Minor impacts on mule deer winter grazing habitat (twice that of the Proposed Action).</p> <p>Mitigation 4: Same as for the Proposed Action.</p>	<p>Action.</p> <p>Impact 3: Same as for the Proposed Action.</p> <p>Mitigation 3: Same as for the Proposed Action.</p> <p>Impact 4: Negligible impacts on mule deer winter grazing habitat.</p> <p>Mitigation 4: None.</p>	

Table S-1
Overview of Environmental Consequences and Potential Mitigation Measures *(continued)*

Proposed Action	Northern Alternative	Calle de la Plata Alternative	Southern Alternative	Foothills Alternative	Existing Corridor Alternative	No Action Alternative
Special Status Species						
<p>Impact 1: Possible impacts on Sage grouse and their future habitat.</p> <p>Mitigation 1: Perch deterrents would be required for all transmission towers within the Pah Rah sage grouse range to mitigate for potential raptor and raven predation on sage grouse (Figure 4-1). Also within the Pah Rah sage grouse range, sage habitat would be assessed during the periodic grazing allotment evaluations to determine sage grouse habitat suitability. Trends documenting the reestablishment of sage habitat, suitability for sage grouse and presence of sage grouse would be recorded.</p> <p>Impact 2: Possible impacts on pygmy rabbits.</p> <p>Mitigation 2: ROW would be surveyed for the presence of pygmy rabbits prior to any vegetation clearing or ground disturbing activities. If pygmy rabbits were found, the BLM would initiate Section 7 consultation with the USFWS.</p> <p>Impact 3: Minor impacts on Special Status Plant Species.</p> <p>Mitigation 3: Sagebrush habitats potentially containing Webber's ivesia would be surveyed prior to surface-disturbing activities, and, if it were present, measures would be</p>	<p>Impact 1: Same as for the Proposed Action.</p> <p>Mitigation 1: Same as for the Proposed Action.</p> <p>Impact 2: Same as for the Proposed Action.</p> <p>Mitigation 2: Same as for the Proposed Action.</p> <p>Impact 3: Same as for the Proposed Action.</p> <p>Mitigation 3: Same as for the Proposed Action.</p> <p>Impact 4: Possible impacts on special status invertebrates.</p> <p>Mitigation 4: Survey ROW for Carson wandering skipper before removing grassland vegetation. Reseed area after construction. If present, BLM would consult with USFWS regarding this species prior to final approval of the COM plan.</p> <p>Impact 5: Minor impacts on eagles and other raptors.</p> <p>Mitigation 5: Prior to surface-disturbing activities in open habitats in the Hungry Ridge area, a biologist would survey the area for active owl burrows, and if active burrows were present, measures would be</p>	<p>Impact 1: Same as for the Proposed Action.</p> <p>Mitigation 1: Same as for the Proposed Action.</p> <p>Impact 2: Same as for the Proposed Action.</p> <p>Mitigation 2: Same as for the Proposed Action.</p> <p>Impact 3: Same as for the Proposed Action.</p> <p>Mitigation 3: Same as for the Proposed Action.</p> <p>Impact 4: No impacts on special status invertebrates.</p> <p>Mitigation 4: None</p> <p>Impact 5: Minor impacts on eagles and other raptors.</p> <p>Mitigation 5: Same as for the Proposed Action.</p>	<p>Impact 1: Same as for the Proposed Action.</p> <p>Mitigation 1: Same as for the Proposed Action.</p> <p>Impact 2: Same as for the Proposed Action.</p> <p>Mitigation 2: Same as for the Proposed Action.</p> <p>Impact 3: Same as for the Proposed Action.</p> <p>Mitigation 3: Same as for the Proposed Action.</p> <p>Impact 4: No impacts on special status invertebrates.</p> <p>Mitigation 4: None.</p> <p>Impact 5: Minor impacts on eagles and other raptors.</p> <p>Mitigation 5: Same as for the Proposed Action.</p>	<p>Impact 1: Same as for the Proposed Action.</p> <p>Mitigation 1: Same as for the Proposed Action.</p> <p>Impact 2: Same as for the Proposed Action.</p> <p>Mitigation 2: Same as for the Proposed Action.</p> <p>Impact 3: Same as for the Proposed Action.</p> <p>Mitigation 3: Same as for the Proposed Action.</p> <p>Impact 4: No impacts on special status invertebrates.</p> <p>Mitigation 4: None.</p> <p>Impact 5: Minor impacts on eagles and other raptors.</p> <p>Mitigation 5: Same as for the Proposed Action.</p>	<p>Impact 1: Same as for the Proposed Action.</p> <p>Mitigation 1: Same as for the Proposed Action.</p> <p>Impact 2: Same as for the Proposed Action.</p> <p>Mitigation 2: Same as for the Proposed Action.</p> <p>Impact 3: Same as for the Proposed Action.</p> <p>Mitigation 3: Same as for the Proposed Action.</p> <p>Impact 4: No impacts on special status invertebrates.</p> <p>Mitigation 4: None.</p> <p>Impact 5: Minor impacts on eagles and other raptors.</p> <p>Mitigation 5: Same as for the Proposed Action.</p>	<p>Impacts 1-5: None.</p> <p>Mitigation 1-5: None.</p>

Table S-1
Overview of Environmental Consequences and Potential Mitigation Measures *(continued)*

Proposed Action	Northern Alternative	Calle de la Plata Alternative	Southern Alternative	Foothills Alternative	Existing Corridor Alternative	No Action Alternative
<p>were present, measures would be implemented to avoid impacts on the population. In addition, BLM would consult with USFWS regarding this species prior to final approval of the COM Plan.</p> <p>Juniper habitats would be surveyed for altered andesite buckwheat, Ames milkvetch, Margaret's rushy milkvetch and Sierra Valley mousetails before surface-disturbing activities begin, and, if present, measures would be implemented to avoid impacts on these plants.</p> <p>Impact 4: No impacts on special status invertebrates.</p> <p>Mitigation 4: None.</p> <p>Impact 5: Minor impacts on eagles and other raptors.</p> <p>Mitigation 5: Prior to surface-disturbing activities in open habitats in the Hungry Ridge area, a biologist would survey the area for active owl burrows, and if active burrows were present, measures would be implemented to avoid impacts. In addition, following construction, the area would be reseeded with native plant species where vegetation has been removed.</p>	<p>implemented to avoid impacts. In addition, following construction, the area would be reseeded with native plant species where vegetation has been removed.</p> <p>Construction and land-disturbing activities would be avoided during the golden eagle nesting period (March 1 to July 30) in areas within two miles of active golden eagle nests. A biologist would examine nests to determine activity prior to construction.</p>					

Table S-1
Overview of Environmental Consequences and Potential Mitigation Measures *(continued)*

Proposed Action	Northern Alternative	Calle de la Plata Alternative	Southern Alternative	Foothills Alternative	Existing Corridor Alternative	No Action Alternative
Range Resources						
<p>Impact: A variety of range improvements may be found on land that the transmission line may follow. In areas where construction of the transmission line and improvements coincide, sections may need to be removed or opened to accommodate construction traffic.</p> <p>Mitigation: BLM range managers and SPPCo would coordinate with permittees to locate range improvements along the selected transmission line route. SPPCo would ensure that all temporary openings had barriers across them to prevent the movement of livestock off public and private land. SPPCo would repair all damaged or removed improvements after construction.</p>	<p>Impact: Same as for the Proposed Action.</p> <p>Mitigation: Same as for the Proposed Action.</p>	<p>Impact: Same as for the Proposed Action.</p> <p>Mitigation: Same as for the Proposed Action.</p>	<p>Impact: Same as for the Proposed Action.</p> <p>Mitigation: Same as for the Proposed Action.</p>	<p>Impact: Same as for the Proposed Action.</p> <p>Mitigation: Same as for the Proposed Action.</p>	<p>Impact: Same as for the Proposed Action.</p> <p>Mitigation: Same as for the Proposed Action.</p>	<p>Impact: None.</p> <p>Mitigation: None.</p>
Aesthetic Resources and Noise						
<p>Impact: Noticeable aesthetic changes to natural environment.</p> <p>Mitigation: Construct switchback road east of La Posada and west of Matterhorn Boulevard.</p>	<p>Impact: None.</p> <p>Mitigation: None.</p>	<p>Impact: Same as for Proposed Action.</p> <p>Mitigation: Construct switchback road west of Matterhorn Boulevard.</p>	<p>Impact: Same as for Proposed Action.</p> <p>Mitigation: Construct switchback road east of La Posada.</p>	<p>Impact: Same as for Proposed Action.</p> <p>Mitigation: Construct switchback road east of La Posada.</p>	<p>Impact: None.</p> <p>Mitigation: None.</p>	<p>Impact: None.</p> <p>Mitigation: None.</p>

Table S-1
Overview of Environmental Consequences and Potential Mitigation Measures *(continued)*

Proposed Action	Northern Alternative	Calle de la Plata Alternative	Southern Alternative	Foothills Alternative	Existing Corridor Alternative	No Action Alternative
Hazardous Materials and Waste						
Impact: None. Mitigation: None.	Impact: None. Mitigation: None.	Impact: None. Mitigation: None.	Impact: None. Mitigation: None.	Impact: None. Mitigation: None.	Impact: None. Mitigation: None.	Impact: None. Mitigation: None.
Public Health and Safety						
Impact 1: Guy wires would present a potential collision hazard to bikers or horse riders. Mitigation 1: If guy wires cross over any designated access roads, they would be marked or flagged or signs would be posted indicating their presence. Impact 2: Poles at northern end of Spanish Spring Airport may affect navigable airspace. Mitigation 2: Airspace safety mitigation measures include marking the transmission lines with orange balls or placing them underground.	Impacts 1 and 2: Same as for the Proposed Action. Mitigation 1 and 2: Same as for the Proposed Action.	Impact 1: Same as for the Proposed Action. Mitigation 1: Same as for the Proposed Action. Impact 2: Poles at northern end of Spanish Spring Airport may affect navigable airspace. Mitigation 2: Airspace safety mitigation measures include marking the transmission lines with orange balls or placing them underground.	Impacts 1 and 2: Same as for the Proposed Action. Mitigation 1 and 2: Same as for the Proposed Action.	Impact 1: Same as for the Proposed Action. Mitigation 1: Same as for the Proposed Action. Impact 2: Poles at northern end of Spanish Spring Airport may affect navigable airspace. Mitigation 2: Airspace safety mitigation measures include marking the transmission lines with orange balls or placing them underground.	Impacts 1 and 2: Same as for the Proposed Action. Mitigation 1 and 2: Same as for the Proposed Action.	Impacts 1 and 2: None. Mitigation 1 and 2: None.
Air Resources						
Impact: Minor construction impacts (PM emissions). Mitigation: Water active construction areas as needed or apply a nontoxic soil stabilizer. Cover trucks hauling loose materials or maintain two feet of freeboard. Sweep adjacent paved streets with water sweepers after	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: None. Mitigation: None.

Table S-1
Overview of Environmental Consequences and Potential Mitigation Measures *(continued)*

Proposed Action	Northern Alternative	Calle de la Plata Alternative	Southern Alternative	Foothills Alternative	Existing Corridor Alternative	No Action Alternative
transporting soil. Cover or apply soil stabilizers to exposed stockpiles. Limit unnecessary or excessive construction equipment idling time.						
Recreation and Areas of Critical Environmental Concern						
Impact: Minor impacts from OHV use. Mitigation: Access roads would be designed to withstand OHV use without causing degradation to natural resources, such as soil erosion.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: None. Mitigation: None.
Socioeconomics and Environmental Justice						
Impact 1: Beneficial effects of increased construction employment. Mitigation 1: None. Impact 2: Potential property value effects from adjacent transmission lines and in limited circumstances. Mitigation 2: Screen or underground the power line.	Impact 1: Same as for the Proposed Action. Mitigation 1: Same as for the Proposed Action. Impact 2: Same as for the Proposed Action. Mitigation 2: Same as for the Proposed Action.	Impact 1: Same as for the Proposed Action. Mitigation 1: Same as for the Proposed Action. Impact 2: Same as for the Proposed Action. Mitigation 2: Same as for the Proposed Action.	Impact 1: Same as for the Proposed Action. Mitigation 1: Same as for the Proposed Action. Impact 2: Same as for the Proposed Action. Mitigation 2: Same as for the Proposed Action.	Impact 1: Same as for the Proposed Action. Mitigation 1: Same as for the Proposed Action. Impact 2: Same as for the Proposed Action. Mitigation 2: Same as for the Proposed Action.	Impacts 1 and 2: Same as for the Proposed Action. Mitigation 1 and 2: None.	Impacts 1 and 2: No increase in construction employment and no effects on property values. Mitigation 1 and 2: None.

Table S-1
Overview of Environmental Consequences and Potential Mitigation Measures *(continued)*

Proposed Action	Northern Alternative	Calle de la Plata Alternative	Southern Alternative	Foothills Alternative	Existing Corridor Alternative	No Action Alternative
Cultural Resources						
Impact: Moderate impact from construction and increased access and possible discoveries of unknown resources. Minor impacts on Native American religious concerns and paleontological resources. Mitigation: Recover data from or avoid archaeological sites within construction area and implement inadvertent discovery plan.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: Moderate impact from construction impacts and increased access, possible discoveries of unknown resources, and visual impacts on rock art site. Minor impacts on Native American religious concerns and paleontological resources. Mitigation: Same as for the Proposed Action.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: Same as for the Proposed Action. Mitigation: Same as for the Proposed Action.	Impact: None. Mitigation: None.

centerline (Regional Utility Corridor Citizens Advisory Committee 1999). The appropriate number of structures within the 150-foot buffer for each alternative is as follows:

- Proposed Action, 12
- Northern Alternative, 19
- Calle de la Plata Alternative, 2
- Southern Alternative, 88
- Foothills Alternative, 103, and
- Existing Corridor Alternative, 52.

The Northern Alternative would create the most short-term and long-term ROW disturbance (512 acres and 223 acres, respectively), while the Proposed Action would create the least short-term and long-term disturbance (408 acres and 165 acres, respectively). The Northern and Existing Corridor Alternatives would affect the most private land (160 acres each), while the Foothills Alternative and Proposed Action would affect the least private land (105 acres and 107 acres, respectively). The Existing Corridor Alternative would use considerably more existing transmission and distribution corridors than any other alternative, with 92 percent of its route along existing corridors, while the Calle de la Plata Alternative would use the least amount of existing corridors (49 percent of its route). All alternatives would have the same minor to moderate, localized, short-term impacts on access and transportation.

Geology and Soils

Impacts would include localized increases in erosion and runoff rates at construction sites. Soils are susceptible to compaction and rutting, and compaction reduces soil productivity. Impacts would be highest during construction, and impact intensity would diminish as disturbed sites are stabilized and revegetated, consequently reducing erosion and runoff. Soil stabilization once construction has been completed would reduce the potential for erosion, and impacts would be minor. The Northern Route Alternative has the greatest acreage of soils, with high erosion potential within 600 feet of the route

(1,071 acres), followed by the Proposed Action Alternative (938 acres), the Southern Route Alternative (853 acres), the Calle de la Plata Route Alternative (605 acres), the Foothills Route Alternative (539 acres), and the Existing Route Alternative (425 acres).

The Proposed Action and Calle de la Plata and Existing Route Alternatives have the greatest number of possible fault crossings identified in existing geologic mapping of the area (nine), followed by the Northern Route Alternative (eight); and the Foothills and Southern Route Alternatives had the lowest number of possible fault crossings (five). Construction would be conducted using best management practices and in accordance with all relevant codes, so there would be no impacts on or from seismic conditions.

There are no geothermal or other mineral leases within the study area. The potential for affecting unpatented mining claims and active mines would be avoided by locating the proposed transmission line so as not to conflict with existing active mining operations or proposed expansion plans. The Calle de la Plata Route Alternative, Proposed Action, Foothills Route Alternative, and Existing Route Alternative have the greatest number of unpatented active mining claims within a half mile of the route (18, 16, 15, and 13, respectively); and the Southern and Northern Route Alternatives had the lowest number of unpatented active mining claims within a half mile of the route (one and zero, respectively).

Water Resources

With the exception of the Truckee River, most of the surface water drainage within the project area is limited to ephemeral flow during and immediately after major rainstorms. In general, precipitation evaporates or seeps into the ground, unless the ground becomes saturated, then overland flow can occur (EMA 2000). The Proposed Action could affect surface water by increasing soil erosion during construction, but BMPs would make the impact minor to negligible. Any blasting during construction could affect wells and natural springs; identification,

blast control, and monitoring would minimize this impact. The Proposed Action and alternatives would not affect water quality from the use of hazardous materials during construction, and impacts related to floods would be negligible. In addition, the Proposed Action and alternatives would not decrease groundwater resources.

Vegetation and Wetland Resources

Impacts on vegetation for all alternatives would include temporary and long-term habitat loss from construction, operation, and maintenance of the project (e.g., overland travel route, tower structure installation, staging areas, and substation expansions). The greatest number of impacts would occur in developed/ruderal and fire-affected vegetation communities. However, larger short-term impacts on sagebrush communities would occur in the Northern and Calle de la Plata Alternatives (190 and 141 acres, respectively) due to frequent turns in the alignments, which require more wire pulling areas. The Proposed Action would affect 90 acres. All Alternatives share in common the crossing of the Truckee River at Tracy. No other areas offer opportunities for wetlands or riparian areas due to the lack of water courses.

Invasive Nonnative Species

The primary impacts of construction on the spread of invasive weeds would be through vegetation removal and soil disturbance. A secondary impact could be the introduction of an invasive species that had previously not been found within the area. Any ground disturbance could create favorable conditions for invasive species to be introduced, to spread, or to become well established. All ground-disturbing activities could increase the potential for invasive weeds to infest or increase. However, vegetation clearing or ground-disturbing activities would be restricted to the minimum amount necessary so as to lessen potential impacts. Additionally, disturbed lands would be revegetated (see Appendix B).

Wildlife Resources

Potential direct impacts on wildlife would result from the removal of vegetation that provides wildlife habitat. In addition, wildlife may be harassed, displaced, or killed as a result of heavy equipment use during construction or maintenance. The presence of new transmission lines and substations would present bird collision and electrocution hazards. Indirect impacts include increased human activity in the ROW, which could affect wildlife nesting or foraging behaviors. Potential impacts specific to sage grouse are discussed in the Special Status Species Section.

Removing vegetation in areas used by wildlife reduces available habitat and may result in habitat fragmentation. Most habitat disturbance from construction would be temporary and minor in relation to the surrounding habitat. Another potential impact would be disturbing nesting birds by trimming or removing vegetation in areas containing active nests.

Special Status Species

Impacts on special status species are generally associated with disturbances to individuals, populations, or habitat, as defined by the Endangered Species Act and BLM guidance on sensitive species. The only federally protected species that may be affected as a result of this project are the Carson wandering skipper (a federally listed endangered butterfly) and Webber's ivesia (a plant species that is a candidate for listing). The Carson wandering skipper occurs in grassland habitats potentially found near the Northern Alternative route. A dedicated area of critical environmental concern for this species is approximately five miles north of this route. As a result, it would not likely be affected. The Webber's ivesia is generally found in volcanic ash substrate in sagebrush scrub habitat. This species may occur in sagebrush habitats along any of the routes being considered. Sagebrush habitats would be surveyed to determine the presence or absence of this species before ground-disturbing activities begin.

Additionally, removing vegetation and engaging in other surface-disturbing activities may affect a few other special status species. In sagebrush habitats, the pygmy rabbit and sage grouse may be affected. All alternatives pass through portions of the Pah Rah sage grouse range, as identified by the Nevada Division of Wildlife. Field investigators concluded that sage grouse are unlikely to occur in these areas due to a lack of suitable habitat. Sage grouse have been documented as avoiding areas within two miles of transmission lines. As a result, if the sage habitat in these areas improves to a level suitable for sage grouse, the presence of transmission lines could preclude the reintroduction of sage grouse to the area. Mitigation measures would include habitat monitoring and the installation of perch deterrents. In grassland habitats, western burrowing owl may be affected, if any are present. Juniper habitats may contain populations of altered andesite buckwheat, Ames milkvetch, Margaret's rushy milkvetch, and Sierra Valley mousetails.

Sensitive bat species potentially occurring in the area include the spotted bat, western small-footed myotis, long-legged myotis, and big brown bat. Roosting habitat for these species would not likely be affected. However, surface-disturbing activities and vegetation removal may temporarily reduce foraging habitat for species that glean insects from vegetation.

Range Resources

Short-term construction impacts could affect range resources on land within any of the transmission line or substation alternatives. These impacts would be temporary, as revegetation would open up most disturbed areas to grazing. Long-term removal of foraging opportunities would be limited and in most cases would affect less than two animal unit months. Construction activities could affect any range improvements within the ROW.

Aesthetic Resources and Noise

Aesthetics

As part of the Proposed Action and alternatives, SPPCo would replace existing distribution line

segments with the proposed transmission line segments, which would be taller and would have more lines. The replacement poles would be aesthetically and structurally similar to the existing poles. These changes in appearance would have minor impacts. The Proposed Action and alternatives would also involve erecting new transmission line segments and constructing new access roads and substations. For developed areas, the poles, lines, access roads, and substations would be similar to other cultural modifications, such as telephone poles and buildings. This would enable the Proposed Action's components to blend in with its surroundings, resulting in long-term minor impacts.

For sparsely developed and undeveloped areas, the poles, lines, access roads, and substations at times would be too distant to see from most areas frequented by the public, would be obstructed by hills, would be near roadways, offering limited viewing time, or would be constructed within an existing utility corridor. This would result in long-term minor impacts. However, there would be locations where impacts on visual resources would be readily apparent: east of La Posada for the Proposed Action, Southern Alternative, and Foothills Alternative and northwest of Matterhorn Boulevard for the Proposed Action and Calle de la Plata Alternative. Mitigation consists of designing and constructing the access roads to switchback up the hills.

The Foothills Alternative would involve constructing the most number of new transmission line segments on or next to lands with a Class III VRM designation, and the Calle de la Plata Alternative would involve constructing the second most number of new segments. This Existing Corridor Alternative would provide the highest degree of compliance with the visual policies of the Regional Utility Corridor Report. It would also have the fewest visual impacts because new transmission line segments would be constructed next to or would be replacing existing transmission line segments.

The Alternate Sugarloaf Substation would have fewer visual impacts than the Proposed Sugarloaf Substation because construction of the Alternate Sugarloaf Substation would result in infill development of an open lot surrounded by commercial and residential development instead of development of the mostly open undeveloped area of the Proposed Sugarloaf Substation. Neither of the Reno-Stead Airport Substation sites would be more favorable with respect to impacts on visual resources.

Noise

Unlike larger transmission line projects, 120-kV lines transmit electricity soundlessly, so there would be no long-term noise impacts on ambient noise levels during operation of the transmission lines. However, there would be minor temporary impacts on ambient noise levels during construction of transmission line routes and substations within populated areas.

Hazardous Materials and Waste

The COM plan that would be submitted to BLM as part of the project would contain detailed information about the procedures and methods for using, transporting, storing, and disposing of hazardous materials and wastes. Operation of the substations would involve few hazardous materials, so there would be minor impacts for the Proposed Action and any of the alternatives.

Public Health and Safety

Comprehensive and properly implemented standard operating procedures would result in minor impacts involving fire. Site safety impacts would be minor because SPPCo would comply with Nevada Department of Transportation roadway work zone safety requirements and right-of-way permits. SPPCo would also comply with both the National Electrical Code and the National Electrical Safety Code at project sites. The calculated electric fields for the Proposed Action are less than the most stringent state standards, so there would be minor impacts involving electric fields. The calculated magnetic field (27.8 milligauss [mG]) for the Proposed Action at the edge of the ROW is

substantially less than the most stringent state standard of 150 mG. FAA mitigation for airspace safety includes placing orange balls on the lines or placing the lines underground when the lines and poles do not comply with the distance to height of pole ratio requirement of 20:1. Also, site safety mitigation would involve making the guy wires used to anchor the transmission line poles more visible.

Air Resources

Most air quality impacts resulting from the Proposed Action would occur during construction. Construction equipment used in any activity would generate oxides of nitrogen (NO_x), sulfur dioxide (SO₂), particulate matter (PM₁₀), carbon monoxide (CO), and ozone (O₃). The amount of emissions would be directly related to the type of construction equipment and its operating hours, and the type of construction activity (e.g., blading). Additionally, vehicles traveling along unpaved roads and within the ROW would create fugitive dust, affecting PM₁₀ concentrations. Emissions from construction would not exceed the annual federal or county thresholds and would be considered short-term minor impacts. The only notable emission source from operation would be from maintenance vehicles traveling along the transmission line road and generating fugitive dust. The amount of emissions would be negligible, so there would be no long-term impacts on air quality.

Recreation and Areas of Critical Environmental Concern

Any of the alternatives could cause temporary construction-related delays in visitor access to dispersed recreational opportunities. All alternatives could increase long-term access to public lands from upgrades in access roads to the power line right-of-way. The power lines would not traverse any designated recreational areas or areas of critical concern under any alternative. Long-term recreation use patterns on land near the power lines would likely change due to increased access and change in visual conditions. The quality of the recreational experience from these changes would depend on the user's perception. Impacts are for the most part

similar among alternatives, with the locations of localized impacts differing among. However, the Existing Corridor Alternative traverses less public land than the other alternatives and thus would have less impact on public land, but these differences would be small.

Socioeconomics and Environmental Justice

The Proposed Action could affect social and economic resources by increasing the number of people and level of economic activity in the Washoe County area during project construction. These effects are anticipated to be beneficial because the Proposed Action would increase spending and income levels in the area. Property values along the ROW could experience a minor decrease, but SPPCo would provide financial compensation to private property owners along the ROW as determined by a qualified appraiser or the courts. The number of parcels that would require easements would range from about 110 parcels for the Existing Corridor Alternative to 199 parcels for the Northern Alternative. The number of easement acres that would be required would range from about 79 acres for the Southern Alternative to 152 for the Existing Corridor Alternative. The Proposed Action would require 83 acres of easement land from 130 parcels.

The Proposed Action and Calle de la Plata Alternative provide the highest degree of system reliability because no double circuiting would be required, and they would be the cheapest to build. The Existing Corridor Alternative would cost two times more to build than the Proposed Action, but would likely require the least land acquisition.

Although no disproportionate social or economic effects on a minority or low-income population have been identified, the power line would partially be within the sphere of influence of the Reno Spark Indian Colony.

Cultural Resources

The Proposed Action and alternatives would have moderate impacts on cultural resources in the project area as a result of construction activities

(particularly subsurface excavation), increased access to archaeological sites from the ROW, and visual impacts on cultural resources. These activities could result in adverse effects on archaeological sites and sites of traditional religious and cultural importance to Native Americans. Because of the similarity of these potential impacts and the overlapping segments resulting in the same sites being exposed to project activity under different alternatives, all the alternatives are considered to have a moderate impact on cultural resources. The BLM would prepare mitigation for these impacts following surveys of the project alignment, in consultation with the SHPO; such mitigation would generally involve avoiding or documenting the sites. The Calle de la Playa Alternative may have a slightly greater impact on cultural resources because of the rock art located directly within the construction alignment, but this impact is considered to be mitigable to the moderate level, in consultation with the SHPO.

No Action Alternative

Under the No Action Alternative, the Transmission line and substations would not be constructed. There would be no impacts on land use, geology and soils, water resources, vegetation and wetlands, wildlife, special status species, range resources, aesthetics and noise, hazardous materials and waste, health and safety, air resources, recreation and areas of environmental concern, and cultural resources.

Consequently, under the No Action Alternative, the identified increased population and economic activity would not occur, and the Washoe County economy would not experience the beneficial effects anticipated from the Proposed Action. The existing electrical infrastructure would not be able to meet future development and demand in the Spanish Springs and Stead areas.

In addition, under the No Action Alternative, the project area would not benefit from plant restoration and weed management following mitigation for construction or continued maintenance and control of nonnative invasive plant species by SPPCo.